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# Eight Point Program

## for Improving Industrial Relations

*Suggested by* C. M. CHESTER

***President, National Association of Manufacturers***

1. Let industry demonstrate its sincerity by improving its own internal situation by elimination of all child labor, sweatshops and exploitation of any sort.

2. Industry should combat any producing, distributing or labor monopolies which tend to stifle free competition.

3. Let industry and all other interested groups join in efforts toward a constructive program of modernization, rebuilding and replacement, helping to unite the national mind on the spiritual as well as material ideals of a better future for all.

4. It is to industry's own interest to help create gainful, private employment in business, industry and the service occupations.

5. Encourage every business which has not already done so to formulate in writing a definite company policy with respect to personnel relations, and centralize and assign responsibility for the administration of such policy to a staff officer responsible to the chief executive of the company.

6. Pay equitable rates of wages, establish wage differentials that reflect differences in relative responsibility, provide for periodic review of individual earnings, consider vacations with pay to hour workers if possible and make entirely clear to employees that income is fairly shared by all participating in the earning of profits.

7. Recognize the social obligations and economic value of providing safeguards against industrial employment hazards and of establishing private means for meeting problems arising from death, disability, old age and unemployment.

8. Formulate policies affecting personnel by adopting the policy of consulting with supervisors and employees.

Can a Battle Between Labor and Capital With Increased Government Control Be Avoided in America? Yes, If Capital Accepts Its Social Responsibility.

# Profits, Prices *and* Wages

By Charles S. Slocombe
Personnel Research Federation, Inc.

Capitalism exists today in America in a less adulterated form than in any other country in the world. In Russia it has almost disappeared and in other European countries, notably in Germany and Italy, it has been so changed as to be almost unrecognizable.

The most basic concept of capitalism is the so called profit motive. While the capitalistic system has been modified by the introduction of agreements and governmental regulation, this central core has remained unchanged.

This core is the idea that the best way to make progress is for each person to work as he likes, to produce as much as he likes, and to reap corresponding rewards. Assuming that each man will want as big a reward as he possibly can get, he will have an incentive to work to the full extent of his capacity both with his hands and his brains.

The man who is not affected by this incentive will be driven to do at least some work, by the fact that only thus can he obtain enough to live on.

Under this scheme poor unfortunates are taken care of by charity because a natural charitable instinct is supposed to exist with the desire to get on.

Through the course of time this system has, with periodic interruptions, worked out. There have been a sufficient number of people who were ambitious, and a sufficient percentage of these with conspicuous ability to develop America to the stage where it has one of the highest standards of living in the world.

The periodic interruptions have,

apart from those due to fortuitous causes such as wars, been caused by the basic weakness in the whole plan. If the profit motive works 100%, it becomes a scheme in which a man makes as much as he can, by any means he can, without any regard to what happens to anyone else, and without regard to what he is going to do with the profits when he has made them.

When the system runs away with itself through there being a large enough number of men of this type in positions of power and with enough ability to do the job thoroughly, we have a situation like that of the twenties.

### *War Hangover*

A combination of circumstances was responsible for this. During the war period when the civil and industrial life of the country was mobilized and every effort bent to organize production on a massive scale, there were developed a large corps of industrialists of outstanding ability with a "win the war at all costs" psychology. In the absence of ordinary competitive conditions, they tasted profits such as had never been their's before. Also their vision was limited to the point of "war won." Thus they developed a psychology of just going on and on organizing on a bigger and bigger scale, producing more and more without any thought as to where it could lead.

So when the war was over we had an unusually large number of high executives and financiers of outstanding ability in organizing, financing, and producing, but with psychology unbalanced by their recent experiences. Many of them had even risen very quickly during the period, and as executives had never had experience as true industrial leaders, who plan on a long time basis. These men perhaps thought that their actions in the war period constituted true executive leadership.

So in 1922 we saw this group of men go into action in a period of peace. They had finance in the profits made during the war, they had factories for mass production, they had trained engineers and skilled workmen, they had large markets in the rehabilitation of railroads and other neglected structures in America and the huge reconstruction program of devastated Europe.

In the next seven years we saw how amazingly the national income of a nation can be increased by such favorable circumstances.

During the war there had been no thought of a balanced national economy. Other matters were more important, for we had to win the war, and if the whole structure were thrown out of balance it was too bad, but we had to win the war.

Hence the men so actively working for profits, according to the best traditions of the capital system, had forgotten about a balanced national economy, which means among other things, maintaining markets for produced goods—generally thought of today, in peace time, as being deter-

mined by the purchasing power of the so called low income groups.

*Hazards Overlooked*

So one of the inherent hazards of the capital system, lack of balance, which always must be guarded against, was neglected for 15 years—too long a period.

The second hazard of capitalism, the proper use of profits made, was also forgotten. This was forgotten largely due to the war psychology of going on producing more and more, making more and more profits up to the "war won" stage, without thought beyond. The second great hazard of capitalism was thus also neglected, and profits were used in unwise ways.

Perhaps apart from their use in dangerous speculation, we may say that they were used in the proper way, namely, in investment in expanding business here and in Europe.

But in the expansion of European business particularly in Germany, a balanced national economy was also being neglected, as it had been during the war. Thus an impossible financial position developed here and abroad which led to the end in 1929.

We have made this postmortem of the Hoover-Mellon-Coolidge twenties because we think it shows up the combination of circumstances which led to the stupendous growth of national income during the period. It also shows the inherent hazards which were not guarded against then but which must be taken into consideration if another debacle is to be avoided.

*Statistical Hindsight*

In those days industrialists, government statistical services and others, who might have been concerned, did not know that the system was becoming unbalanced. For the combination of circumstances which we have described had never been seen before, and so it was impossible to forecast what was going to happen with any degree of certainty. Today, with hindsight, we can see the more obvious things that were happening to upset the balance, and therefore know the safeguards that must be built to prevent the present up surge of prosperity from a disastrous reverse.

It is common practice for statisticians and economic students to study long term trends of development and to eschew serious consideration of short periods of 5 or 6 years. Consequently many of our statistical series run back to 1900 or to 1879 or some such date. The fluctuations and variations in these are smoothed out to get a picture of long time trends.

Such a method is excellent for certain purposes, but it has a crucial weakness. It hides changes in basic trends. While there is grave danger in regarding a hump or dip in a curve as denoting a change in underlying causative factors, the high low of 1923–1933, as the greatest swing that has ever occurred in the long record of business cycles is certainly a danger signal. It should be examined to see

if there are not now entirely new forces which have never existed before.

The result of such an examination is conclusive that we cannot go forward to a prosperity of the 1923–1929 type without at the same time going forward to a depression of the 1930–1933 type. The problem then is one of finding out what should be done to get prosperity without subsequent depression, *caused by the prosperity*, and who should do what has to be done.

TABLE I

*Operations of U. S. Steel Corporation 1924–1929*

(Figures to nearest million or thousand)

| | 1924 | 1929 | 1929 as a percentage of 1924 |
|---|---|---|---|
| Tons shipped | 11.5 million | 15.2 million | 132 |
| Gross sales | 842 " | 980 " | 117 |
| Gross sales (adjusted to price index) | 842 " | 1,100 " | 132 |
| Operating income | 142 " | 198 " | 139 |
| Value of Plant | 1,678 " | 1,541 " | 92 |
| No. of employees | 246 thousand | 224 thousand | 91 |
| Payroll | 442 million | 419 million | 95 |
| Average annual wages per employee | 1,800 dollars | 1,870 dollars | 104 |

### *Analysis of U. S. Steel*

In order to get an answer to this problem let us study figures for the U. S. Steel Corporation as given in Moody's Industrials. (Figures available from 1924 on. Figures given here for 1924–1949.)

The following points may be noted from the table of operations shown above.

(1) From 1924 to 1929 with less physical plant or with a less valuable physical plant and with a reduced number of employees the Corporation was able to increase its production by 32% in volume. Here we immediately see the result of engineering advances, and improved managerial practices, so characteristic of the more successful companies during this period.

(2) The value of the steel products shipped (gross sales), however, increased by only 17%. This was due to a fall in wholesale iron and steel prices. That is to say, the Steel Corporation passed to its customers a proportion of lowered manufacturing costs.

(3) If we calculate what would have been the sales value of the increased production, if prices had not been reduced (and assume that the increased prices could have found buyers if prices had not been reduced), we find that sales in 1929 would have been $1100 million instead of $980 million which they were. According to this method of calculation we find that Steel saved its customers $120 million by improving its manufacturing methods and reducing costs.

(4) Steel did not obtain reduced costs by depressing the wages of its employees, for the average annual

wages per employee on the payroll increased by 4%. As there was no appreciable change in the index number for the cost of goods purchased by the lower income groups during this period, employed steel workers of this Corporation were able to slightly improve their standard of living. In other words the purchasing power of this group was increased slightly. (Employees include wage earners and salaried employees.)

(5) On these counts, we see that Steel during this period enormously increased its production with reduced capital investment in plant, and with a decreased labor force. By these means it reduced its manufacturing costs, and passed part of the reduction on to consumers at the same time slightly increasing the purchasing power of the workers who at the end of the period were employed by it.

(6) But what about balance? If this corporation be regarded as typical of the successful large industrial corporations of the period and an examination of other such organizations should reveal somewhat similar figures, the question arises as to how far the distribution of values received for the goods manufactured contributed to an unbalanced national economy.

### *Return to Labor*

(7) First there is the question of total return to labor. The number of employees declined and so did the total payroll, by 9% and 5% respectively. There are two considerations here. The tonnage produced per employee increased from 46.8 tons to 68 tons or 45%. Gross sales per employee from $3430 to $4370 or $940. If the productivity of an employee increased 45% and the value of the products of his labor increased by $940 was he not entitled to a bigger raise in wages than the $70 which was all he got.

On the face of it, it looks as if he were entitled to more consideration than this. But it must be remembered that Steel was not in business for the benefit of its employees. It was in business to make profits for its stockholders, and so long as it did not depress the wages or working conditions of its employees below the conditions present in the beginning of the period, or fail to improve them comparably with general industrial practice it could not be said to be treating them unfairly.

This is on the assumption that the workers themselves did *not* exert any special or increased personal effort either by coöperating more heartily with management in developing new methods or markets, by ceasing or reducing their restriction of output (characteristic of many employees from top to bottom of all companies) or by exerting greater muscular exertion or skill. This assumption is probably true, as judged by general industrial experience even in the best companies.

Another assumption which raises a question, however, is whether in 1924 wages and working conditions were adequate so that they might properly be used as a basis for com-

parison. This involves the question as to how adequacy may be determined, whether by social and research agencies determining what base wages should be, what working conditions are not deleterious to health and safety etc., or by reference to the usual industrial practices of the time. By the latter standard it may be assumed that employees of the Steel Corporation had reasonably adequate wages and working conditions in 1924.

On these bases then it seems that because the Steel Corporation was able by the use of new engineering devices, the adoption of more logical and scientific management and personnel methods, to increase the quantity and value of the output per employee, this is no reason why the employees who did nothing to aid this improvement should receive any special consideration in the matter of wages.

*Employees as Consumers*

(8) Steel lowered its prices to consumers and stimulated their purchase of its products so that gross sales increased by 17% in value. But the return to labor in total payroll declined 5%. Thus the purchasing power of its labor force did not keep pace with the value of goods produced. In other words Steel increased its sales by $138 million but reduced its payroll by $23 million.

To take simple illustrations, an increasing proportion of steel was sold to automobile manufacturers, who expected to sell cars to Steel's employees. An increasing proportion was sold indirectly and directly to railroads to build equipment, rails, bridges, etc., the railroads buying the steel products in the expectation that they would carry Steel's employees as passengers and transport to Pittsburgh and the Chicago area the goods the Steel workers would buy.

But with decreasing income of Steel workers how were they to buy the additional automobiles; how were they to travel more on the railroads and consume more goods brought in by railroads.

It is obvious that they could not do so.

We conclude therefore that the Steel Corporation by reducing its payroll over these six years contributed to a reduction in the purchasing power of some consumers. If all industrial companies were pursuing a similar policy it is obvious that all employees in manufacturing were losing their purchasing power.

*Counterbalancing Factors*

Were there counterbalancing forces?

Farm population in 1930 was 31,000,000. There were 1,600,000 employees of railroads and 10,000,000 wage earners in industry. If we assume that with dependents these last two groups include 30 million people and add them to farm population we have 60 million or approximately half the 1929 population of the U. S. Figures show that the income of this half of the population increased by only 5%, during the 1924–1929 period.

Gross value of steel products we have seen increased by 17%. This was approximately the same (16.5%) as the increase in value of all manufactured goods. (Manufactured goods are for period 1923–1939.)

If the purchasing power of one half the population is not increasing as fast as the production of Steel and other manufactured goods there is a tendency for consumption to fall behind production. Two possible factors might offset and delay this tendency which ultimately must cause a breakdown.

(a) This 50% of the population might increase the proportion of their incomes which they spent on steel products and other manufactured goods. We have no evidence as to whether this was so or not.

(b) The income of the other 50% of the population engaged in trade, banking and other services might have increased faster than the increase of the farm population and industrial and railroad workers, and these traders, clerks and professional workers might also have increased the proportion of their incomes spent on steel and other manufactured goods.

This second factor unquestionably was present, and contributed very materially to the progress of the period, 1924–29. But it must be noted that the purchasing power of this group must increase nearly doubly fast to make up for the lack of purchasing power of the farm and industrial group.

Two other factors which might be considered are increased exports of steel and manufactured goods, and increased government purchases of them.

*Profits*

(9) We have dealt with reduced prices and wages. The other factor is profits, and we see that operating income which is synonymous with profits rose by 39%.

Under the capital system, which was operative during this period, the object and purpose of the Steel Corporation was to make profits. It made steel to make profits, and succeeded.

Are there any standards by which to judge whether the increase in profit taken was too high or too low? Perhaps there is no final answer to this question, but there are several considerations which might be discussed.

We see the tremendous advance in profits as production increases, an advance that bears no relation to investment, or value of plant, but seems to be just a phenomenon arising out of the engineering and managerial skill of the present day.

The profit on output in 1924 was 16.9% of gross sales. Sales increased in the six years by $138 million, and profits increased by $56 million. That is to say, no less than 40% of increased sales went to profits.

Was this too much? In order to maintain purchasing power should the percent of profit have remained somewhere near the 1924 percentage, and the remainder been used to increase purchasing power, by reducing

prices still further or by not lowering the total payroll. If this policy had been followed by Steel and other similar corporations would a balanced national economy have resulted which would have helped to prevent the depression?

Why should Steel or any other Corporation not make as much profit as it can? Why should it sacrifice profits to reduce prices or raise wages? The only reason would be to protect its profits, in future years.

### *Use of Profits*

Under the conditions of large scale manufacture that have developed since the war we see almost limitless profit possibilities in industry. Previously, while there were exceptions, profits were limited by sheer lack of factors such as plant, engineering managerial methods, and executive ability. But today these factors are such that extremely high yearly profits are possible. But these profits can continue only if there is economic balance in the country and unquestionably the potentially high profits of large scale industry must be used in helping to preserve this balance.

Another consideration faces us in this matter of profits, which goes back to the war psychology. Work to win the war and after that what? Nobody was concerned about what would happen when the war was over. So with profits, work to make profits, larger and larger profits. What for? What can be done with them when they are made?

The investment in plant of the Steel Corporation did not increase in the years when its profits were increasing, so there was little opportunity for investment there. And throughout the whole nation the supply of investment money today greatly exceeds what is required for expansion of plant and equipment.

But profits may be put to useful service in reducing prices or raising wages, and so can be built into the economic fabric of the country and so help to maintain its progress and stability.

Today there is no other use to which excess profits can be put. They can be made faster than they can be used (by large scale industry). Previously they were ploughed back into the business and used for development and expansion, but now without consumers, development and expansion are not needed. The only course open then seems to be to plough some of the potential excess profits back into the consumers, so that the need for development and expansion will again arise. The proportions which are used for these two purposes need to be worked out to preserve balance.

Though the proportion of profits spent on consumer goods is unknown, owing to the proportion retained as reserves and therefore not distributed as dividends, and the proportion of income of higher bracket recipients of dividends which is saved, it is probable that only a small part of profits go to increase purchasing power.

*Steel Creates Own Problem*

Thus we see the problem created for itself (and for the nation) by a huge corporation; advanced engineering methods, managerial skill of a high order, more than adequate financing for working capital, plant, and equipment, all combining to manufacture at minimum cost, and maximum profit.

How far shall it reduce prices, what shall it do about total payroll and what shall its profit policy be? These are new problems which we now realize existed in the twenties, but which were not then realized and on which there did not then exist adequate statistical information to aid in their solution.

Today there is every indication that we are heading into a similar period of development. How long the period of expanding profits will be no one knows. But we suggest that if the necessary thought is given to the subject of a balanced national economy the forces of prosperity need not become forces of adversity.

We have dealt with this problem of balance, as the problem of a single corporation. It is the problem of individual corporations so long as we maintain the capital-profit system in America. It has been common for public relations apologists to present to the public figures of the automobile and other industries showing how their increasing mechanization has led eventually to lower prices and increased demand and employment. It has been common therefore for industrial executives to think that if they proceeded along traditional lines of lowering costs of production, part of which lowering is a lowering of total payroll, taking part of the savings as extra profits and passing a part over to consumers in reduced prices, all will be well.

But the logic of events has proven that all may not be well under such circumstances. Balance must be maintained and cannot be left to chance. Whose concern shall it be?

We submit that it should be the concern of the individual large scale mass production corporation or industry rather than that of the Federal government.

*Corporation Economic Research*

Is it too absurd to suggest that the U. S. Steel Corporation might have taken perhaps a million dollars of its $198 million profit in 1929, and spent it in economic and statistical research, so that the Board of Directors might have been wisely advised as to their price, wage, and profit policy? Is it too absurd to suggest that had they and General Motors and Du Pont and General Electric and other large corporations devoted funds to economic research, these large corporations would not have suffered the losses which they did during the depression?

Is it too absurd to suggest that they now appropriate part of their potential profits to such purposes? We do not mean by this having a staff

of economists who will turn out for public consumption figures showing that employment and payrolls are back up to what they were in 1929 (we have seen that what they were in 1929 was what caused all the trouble), or that the industry indirectly causes the employment of so many million workers in gas stations and road building, the usual propaganda material which always sounds canned and fishy. We mean sound economic research on the basis of which the corporation may act as a socially responsible economic unit. Is such a thing possible?

Can we visualize the chief economist of Steel sending in a report when the budget for 1929 was being made up, recommending that while it would be possible for the Corporation to make a profit of $198 million, they should forego this profit and limiting themselves to $150 million, give $18 million to employees in increased pay or pensions, etc., and spend the other $30 million on boosting consumer purchasing power by reducing prices. The probability is that had such recommendations been made and accepted by Steel (and in other kindred corporations) Steel would not have been in the red to the extent of $120 million during the depression.

### *Social Responsibility*

The U. S. Steel Corporation or any other such organization has the choice of operating according to the principles of so called business statesmanship, which means accepting its responsibility to see that by its actions it does not tend to upset the national economic balance, or facing the interference of and taxation by the Federal Government. (Taxes on Steel increased $25 million in the last 7 years.)

The capital-profit system, with its encouragement of free initiative, enterprise and energy has put America well ahead of any other country in the world. This system should therefore be continued, for there is much yet to be done. But the changed conditions of the last 20 years mean that there must be modifications.

It seems to us that these modifications had best be made within the capital-profit system, by corporations such as U. S. Steel Corporation recognising that their continued progress and profits depend upon their own restrained and intelligent action, and that they have a responsibility not only to their stockholders but to the Nation. Only if they accept this responsibility and carry it out with an ability equal to their ability in engineering and management can the present system go forward. Only thus can the standard of living and culture of the American people under capitalism increase.

*This is the first of a series of articles dealing with employer-employee cooperation. Inasmuch as this cooperation has an economic base, early articles will deal with economics.*

Eye Fatigue and Discomfort Directly Affect Work. Today They Can Be Eliminated. Two Doctors Tell Us How.

# Better Lighting *for* Workers

By C. E. Ferree and G. Rand[1]
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Current practice in lighting is characterized by high and harmful glare which gets worse as the intensity of illumination increases, and little means are being provided for adapting intensity and placement of light to the various needs that arise. Adequate means for eliminating glare; for varying intensity and placement of light; and for commercial color-correction are the four essential points in good lighting. A worker using his eyes constantly cannot be expected to perform either his best or greatest amount of work when his eyes are fatigued or painful.

Like any other organ of the body, if the eye is to remain healthy and efficient or to cure itself of any of its ills, congenital or acquired, it must first be put into a situation calling for the healthy exercise of its normal functions. Important factors in this situation are the conditions under which it is ordinarily called upon to work.

In this discussion we will consider the four most essential points of good lighting as they affect these working conditions: intensity of illumination, glare placement of light and brightness, and color of light. We have selected these not only because of their fundamental importance but also because we are completely equipped to provide hygienic conditions with respect to them.

### *Intensity of Illumination*

One of the most outstanding facts with reference to intensity of illumi-

[1]Ferree, C. E. and Rand, G. Uses and needs of variable illumination and a convenient device for obtaining it. J. General Psychol., 1936, 14, 473–487.

nation is the wide variation that is found in the amount of light needed and preferred for different types of work, for different ages and for different individuals of the same age doing the same work.

Important factors in these individual variations are age, the refractive condition of the eye, health of the eye, clearness of media, size of pupil, susceptibility to glare, keenness of light and space discrimination, etc. *If too little light is used*, low visibility results and the eye undergoes all the strain and malfunctioning of its muscle equipment which result from its reflex efforts to clear up vision. *If too much light is used*, the excessively harmful effects of glare are experienced. For by far the greater number of people the range of toleration of intensity for the comfortable use of the eyes is comparatively narrow for light of Mazda quality and somewhere in this range is a pretty clearly defined preferred intensity for each individual.

While the correct adjustment of intensity is extremely important in the case of all eyes, it is of paramount consideration in case of those eyes which come under the care of the eye specialist. It is not enough to say that you shall or shall not use your eyes for reading or work, or to say that they shall be used only for a certain number of hours a day. The conditions under which they can be used should be prescribed and the prescription should be accompanied by the information needed to carry out the recommendation. In this way not only would great benefit accrue to the eyes in question, but a much greater amount of work could be allowed.

### *Individual Needs*

There are two ways of dealing with the situation with regard to the regulation of intensity of light to individual needs.

The more satisfactory procedure from the practical point of view is to use a test only for the purpose of finding out approximately what is needed and then to recommend the use of a local lighting unit provided with an intensity control over the range which satisfies the individual's requirement. He can then at any time and for any work adjust the intensity exactly to suit his needs. The purpose of the test in this procedure is that the examiner may find out the type of eye he is dealing with for his own enlightenment in relation to the care of the eye and that he may recommend the right type of lighting unit. To meet this need for a variable intensity, we have devised desk and table lamps, floor-stand lamps, bed reading and examining lamps, all provided with mechanical controls which change the intensity of light in continuous series but do not change the color or composition of the light nor the size, shape or location of the illuminated area.

It can, however, be ascertained exactly what the individual's range of toleration of intensity for the comfortable use of the eyes and his preferred intensity are. On the basis of

this information a prescription can be given advising him what intensity he should have. For this purpose and for the above procedure, instruments of the type of our variable illuminator can be very conveniently used. This procedure is not completely satisfactory because of the difficulty the individual will have in filling the prescription with such lighting equipment as he is able to procure. In this connection it should be remembered that the preferred intensity must be very closely approximated or the prescription will signally fail to accomplish its purpose; further that the exact amount of light needed varies with the kind of work, the time of day, variation in the condition of the eyes, etc. It is impossible satisfactorily to take account of all these factors in a single test period. Again, the individual may not even attempt to fill the prescription because of the trouble involved and the amount of technical knowledge and understanding it would entail.

### *Group Needs*

It would be a very ill-considered practice in lighting to make a blanket recommendation for all people of a certain intensity of illumination or narrow range of intensity, even for the same kind of work. It will also be realized how difficult it is adequately to handle the situation of intensity by general illumination alone for any considerable number of workers. In some cases it is possible, by means of information obtained by testing a group of workers, to distribute them in a room lighted by general illumination so as to give some consideration to their individual needs. One example of where we have been able to accomplish this result with notable success was in a room in a large publishing house used by fifty or more proof-readers. In this case a systematic measurement was made of the intensity of illumination of the room, and the proof-readers were each tested for the preferred intensity of light and then assigned to locations in the room that most nearly met their requirements. No significant change was made in the lighting of the room. The ideal way to handle the situation, however, would be to provide a suitable intensity of general illumination and use local lighting with variable control of intensity in the individual case.

### *Glare*

The most acute problem in modern lighting from the standpoint both of hygiene of the eye and of the designing of lighting equipment has been, it scarcely need be pointed out, the elimination of glare.

In general the following subjective factors may be noted in susceptibility to glare: age, size of pupil, condition of the media of the eye, health of the eye and general health, marked asymmetry of refraction of the two eyes, high myopia and refractive errors that produce an irritable and supersensitive condition of the eye, ocular and bodily fatigue, loss of sleep and

insomnia, etc.; and the following objective factors as predisposing to glare: reflecting power of surface viewed and character of reflection, size of reflecting surface, intensity of light, angle at which light falls on the work and breadth of angle of incident light, diffuseness of light, color and composition of light, high brightnesses in paracentral and peripheral field of view and their angular relation to the line of sight, etc.

Glare is of two types, simple glare and veiling glare. Simple glare is a too high brightness in any part of the field of view due to an excessive stimulation of the sensorium by light. In the center of the field it is commonly called glare on the work. In the peripheral field it is usually due to the source of light, the lighting fixture, high reflections, and poorly controlled or misplaced intensities of light. Glare on the working surface may also be of the type known as veiling glare. Veiling glare is an obscuring of the image on the retina produced either by an overlay of scattered light or by light reflected from the working surface which is not focused. The former is due to the diffusing or scattering properties or the lens and other media of the eye, and the latter to specular reflection from the working surface itself.

The experience of simple glare ranges from a feeling of too much light, or an annoying brightness, through the various stages of discomfort to acute pain. Veiling glare, causes eye strain or discomfort through a misdirected and futile effort on the part of the muscles of the eye to clear up its images. That veiling glare should cause eye strain and discomfort is not difficult to understand. It is not so easy to explain the acute pain often caused by simple glare. This is perhaps due to a sharp contraction of the pupil, particularly if the iris is inflamed or supersensitive, or to some condition or reaction set up in the eye itself or in the sensorium. In any event it is a warning or danger sign that harm is being done to the eye. In connection with the pain and discomfort experienced, it will be remembered that the iris and other parts of the eye are richly equipped with pain nerves.

Eyes differ greatly in their susceptibility to glare. A study of this susceptibility and the factors that cause it, is a very important need to the care and welfare of the eye. It is especially important that glare susceptibility and the requirements relating to intensity of light should be studied in case of diseases of the eye and in case of some of the more serious defects in refraction and other refractive errors that produce an irritable and supersensitive condition of the eyes. We have, for example, observed the acute susceptibility to glare in cases of glaucoma, retinitis pigmentosa, iritis and conjunctivitis, high myopia, marked difference in the refractive condition of the two eyes, uncorrected or poorly corrected astigmatism, etc.

*Placement of Light*

A third important feature in lighting is the correct placement of the light. This problem was created with the devising of lamp shades for shielding the eye from glare and later giving these shades a reflecting lining to conserve and direct the light. When the opening of the reflector was turned down, the light was directed towards the plane of work and walls and ceiling were left dark or very poorly illuminated. On the other hand, when it was turned up, the light was directed to the ceiling and from there reflected to other parts of the room. This resulted in a disproportionately high brightness of ceiling and a correspondingly low intensity of light on the plane of work. Relief from the glare of the opening was obtained at the cost of a bad and inefficient placement of the light. As compromise between these extremes in the placement of the light, recourse was had to inverted translucent bowls or housings which reflected a part of the light to the ceiling and transmitted a part laterally and downward, to opaque housings or reflectors which directed a part of the light upward and part downward (direct-indirect units), and to diffusing globes.

While these units gave a better placement of light than either the totally direct or totally indirect units, the protection afforded against glare was very far from adequate. The most favorable placement of light and brightness in respect to walls and ceiling is to have the maximum near the level of the eyes of the worker with an even and gradual decrease in both directions upwards and downwards,—thus giving the upper walls and ceiling, for example, less than the maximum brightness. The next step in the development of lighting fixtures has been the use of baffles in such a way as to give the minimum interference to the distribution of light from the source and the maximum protection against glare, as illustrated in the Personnel Journal, 1934, p. 338.

*Placement for Individual Needs*

An important feature in the designing of equipment for both general and local lighting is a provision of a means for varying placement of light to suit the needs of the individual situation. One of the difficulties in securing good lighting effects at present is the lack of flexibility and variety in this respect. The units that can be had ready-made of a stock or standard type differ rather widely among themselves in the lighting effects produced. Thus it is somewhat difficult to adopt the units that are available to such situations as are presented by different sizes and shapes of room, heights of ceiling, characteristics of walls and ceiling with respect to contour and surfacing, purposes for which the room or enclosure are to be used. This difficulty is sometimes met in what is called custom-made lighting by using

units of special design and more than one type of unit in the lighting of the enclosure. A further possibility, as will be noted later in the paper, is to provide in the unit itself for variability in the placement of light. This can be done with both general and local lighting units, perhaps most easily and conveniently in the local units. It is possible, for example, in the designing of local lighting units practically to eliminate glare from the working surface without undue loss of luminous efficiency by suitable means for varying the direction and placement of light on the work.

### *Colorless Light Better*

Color and composition of light are to be considered of importance in the care and welfare of the eye for several reasons.

Colorless light gives the eye more power than colored light to see objects neutral as to color. This has been definitely shown by tests. The functions tested were acuity, speed of discrimination, power to sustain clear seeing and ocular fatigue. Black test objects on white and the reading pages were used as test material. In every case colorless light, i.e., color-corrected light or light of daylight quality, gave a better performance in all these respects than colored light. For colored light the best performance was given in the yellow (around wave-length 578 m$\mu$). On either side of this there was a decrease towards the long and short wave-length ends of the spectrum.

Black on white gave better results than black on any color. If color is used for background, black on yellow gives better performance than black on any other color. In this connection it will be remembered that the visibility of an object depends upon its difference from the background as well as its size. This subject was discussed in considerable detail in the Personnel Journal, 1931, Vol. 9, p. 475 and Vol. 10, p. 108.

Color and composition of light as well as intensity are factors in causing glare, both simple and veiling. Glare comes at lower intensities for artificial light than for daylight and light properly corrected for color. And again it seems that colored lights differ among themselves in their tendency to produce glare. Just why these differences should be present in case of simple glare it is somewhat difficult to understand. In case of veiling glare they are doubtless due to the difference in the tendency of the media of the eye to scatter lights of different wave-length and composition.

Colored light is more apt to produce ocular discomfort than white light. This tendency also differs among the colors themselves. This is found to be true both when the lights in question are used as illuminants and when the eye is exposed to them without any effort or attempt to discriminate detail.

The effect of color on the eye's comfort and preference varies a great deal for different individuals. Eyes made irritable and supersensitive by

refractive defect and disease seem in general to suffer most from color in light. It may be said, however, that daylight and artificial light properly corrected for color are better for all eyes than colored light.

*Better Lighting Now Practical*

The practical correction of lighting faults is now possible for we have devised means whereby any intensity of light that would be needed both in usual and unusual lighting conditions can be secured with complete elimination of glare. This has been accomplished by the use of glare baffles or a plurality of non-reflecting shades of suitable size and shape so worked into the design of the fixture or housing of the source of light as to completely shield the eye from the glare of the lamp itself and all auxiliary reflecting surfaces, and to give such wide and uniform distribution of light as to entirely eliminate all high and uneven brightnesses on walls and ceiling. These baffles have also been used to meet the needs and requirements of local lighting. We have further included in local lighting the very important feature of variable intensity of light, as was noted earlier; and in both general and local lighting, of variable placement of light; also provisions have been made for color correction when that is desired.

Our list of devices includes the following: inset ceiling and wall bracket fixtures for commercial lighting and the lighting of hospitals, offices and homes; bed reading and examining lamps; desk and table lamps; floor-stand reading and bridge lamps; lamps for the lighting of lecturers' and speakers' desks; device for lighting tunnels and corridors and for protection of glare from automobile headlights; lamps for the optician's fitting table and the refractionist's chair; etc.

We have considered it worthwhile to note these devices here in order to show that it is possible to carry out the hygienic measures with reference to lighting we have recommended for the care and treatment of the eye. Whether the means we have devised or some other shall be adopted, is of secondary importance. The primary thing is to show that such results can be accomplished in ways that are entirely practical and commercially feasible.

A New and Fundamental Achievement at Industrial Self-regulation in Industries Made Up of Small Units, the Women's Apparel Industries.

# Industrial Self-regulation

By Bertha M. Nienburg
Chief Economist, Women's Bureau, U. S. Department of Labor

The voluntary effort of employees and employers to work together toward solution of the complex problems in the women's coat and suit industry and the millinery industry has successfully reached the end of its first year. Recognition upon the part of employees that "fair and equitable standards of labor" can only be maintained in a highly competitive industry through the maintenance of "standards of fair commercial practice," recognition upon the part of employers that their welfare depends upon the maintenance of standards of labor as well as standards of fair commercial practice, in themselves indicate a scientific, dispassionate approach to difficult industrial problems.

The formation of the National Coat and Suit Industry Recovery Board by nine-tenths of the member concerns in the coat and suit industry and 50,000 employees and the formation of the Millinery Stabilization Commission by four-fifths of the firms in the millinery industry with over 25,000 employees represent an effective merging of traditional group conflicts.

### *Organization of the Industry*

Fifty years of expansion have not materially changed the internal structure of the women's outer garment industries. Instead of a centralization of manufacturing in relatively few large factories, in line with the development of modern American industry, large unit selling agencies have been combined with many small

scale manufacturing plants. Historically this type of organization grew out of the greater ease with which newly arrived immigrant tailors could be organized into sewing groups by neighbors than into factory groups by the merchant manufacturer who had to sell the garments. It has persisted because little capital is required to set up sewing rooms whose activities can be completely suspended when lack of orders warrants. It has been encouraged by the present day merchandising practice of placing small orders for a great variety of garments for quick delivery. Large factories carrying a steady overhead load, even though operated efficiently, have had difficulty in competing successfully under such conditions.

As a result of corrective lesislation and many strikes during the last 50 years, the home sweat shop was eliminated in the coat and suit industry, and many of the worst abuses have been relegated to the past. But fashion factors and the seasonal character of the industry, the over-supply of workers and of sewing contractors have made earnings uncertain and price undercutting frequent.

Today the coat and suit industry has advanced farther than other women's apparel industries along the path toward stabilization. But even so, in February 1935, there were 2,423 separate operating units in the industry of which less than two-fifths were inside manufacturers, that is, manufacturers who buy materials, cut it up and sew it into coats or suits or wraps on their premises. There were 395 jobbers who made up designs and purchased materials, and who sold the finished garment. These jobbers called in 1,025 contractors to quote prices on making up different designs in specific materials. The jobbers have insisted hitherto that bids from many submanufacturers were necessary because each experimented with many styles. As the retailer pressed him for low wholesale prices, the jobber kept his manufacturing costs down by competitive bids from a large number of submanufacturers. Men who were employees yesterday thus managed easily to enter the ranks of submanufacturers, for little capital was required to rent a room and some sewing machines. Knowing little of price determination or cost accounting, they accepted work at impossible prices and in turn were forced to reintroduce sweatshop conditions to keep operating.

Such an industrial organization carries in its wake untold possibilities of disaster for employer, employee, and the public. Even in the year of increasing business ending February 1935, 298 coat and suit firms went out of business in New York City. While the employees in coat and suit *factories* numbered 29,700 their working conditions are continuously affected by the wages and hours of the 27,400 employed in the coat and suit contract and jobber shops.

### *Seasonal Fluctuations*

While the services of 60,319 men and women were required during the

week of October 13 to produce coats and suits for the fall and winter season of 1934, only 29,524 were employed by December 8, and in the week of June 2, 1935, only 19,416 persons; that is, three times as many people are given employment at the high tide of demand as at its low ebb. Nor does employment mean full days of work with full pay envelopes. The amount paid workers varied even more widely than the numbers employed, being over five times as great during the week of March 24 as in the week ending June 2.

In an industry that gave some employment to over 60,000 people, only from 19,000 to 20,000 could count on some income during 52 weeks; another 20,000 had to earn in 29 weeks an income to support families for 52 weeks; and some 10,000 to 20,000 others received pay during only 17 weeks of the year ending February 2, 1935.

### *New Methods of Control*

As has been stated earlier, the inside manufacturers, the jobbers, the submanufacturers or contractors, and the employees in the coat and suit industry have severally merged their interests to "promote the common welfare of the industry" by the formation of the National Coat and Suit Industry Recovery Board. This administrative body is governed by an executive board selected from the four regional boards that administer the industry's affairs in the four coat and suit manufacturing regions of the United States. In the metropolitan area, where 85 per cent of all the coats and suits are produced, the membership of the Metropolitan Regional Board is elected from the International Ladies' Garment Workers' Union representing the employees, from the Industrial Council of Cloak, Suit, and Skirt Manufacturers, Inc., representing the inside manufacturers, from the Merchants' Ladies' Garment Association, Inc., the association of jobbers, form the American Cloak and Suit Manufacturers' Association, Inc., representing the contractors, and from the Infants' and Children's Coat Association. In the other regions, employees and employers from different cities are elected to the regional boards.

The problem of jobber-contractor relationship is vigorously attacked by this organization. In an amendment to the board's constitution, all members of the body who employ or deal with contractors or submanufacturers must list those actually required to produce their garments. While these may be changed from time to time as business warrants after a hearing before the local compliance board, the number of contractors is limited fairly closely to the seasonal requirements of the market.

Member concerns employing contractors or submanufacturers agree to pay producers for overhead, a minimum percentage of the direct labor cost in the production of garments. They also agree to pay an amount for labor cost sufficient to enable the contractor to pay workers the prevailing

wage rates and earnings set up in collective agreements within the region, or the actual rates of earnings fixed by specific collective or individual contractual agreements.

*Wage and Price Determination*

To determine what the productive labor costs on any style of coat or suit should be to yield specific earnings to the worker of average skill, a labor bureau has been set up in the metropolitan area. This bureau is ascertaining the time required in manufacturers' and contractors' shops for workers to produce standard types and grades of garments, so that a scientific basis may be available for determining prices of production and piece rates for the various crafts in place of the competitive price system existing in the industry. Today the various persons concerned in the price the jobber makes to the contractor adjust piece rates together; that is, the representative of the workers, the contractors, and the jobbers, as well as a representative of the labor bureau, work out equitable rates.

*Working Conditions*

The constitution of the National Coat and Suit Industry Recovery Board provides for the maintenance of present standards of working conditions in the following terms:

Article V.—Hours and Wages and Other Standards of Working Conditions.

1. If a member concern of this body is in collective or individual contractual agreement with labor, said member concern agrees to maintain the standards and provisions of said agreement.

2. If a member concern of this body is not in collective or individual contractual agreement with labor, said member concern agrees to establish and/or maintain at least the minimum standard of wages and hours and working conditions established through collective bargaining between employers and workers in the region in which said member concern in located.

a. If for any reason these standards cannot be determined, then the standard of wages and hours and working conditions provided by the Code of Fair Competition for the Coat and Suit Industry applicable to the member concern in question as of May 1, 1935, shall be deemed the minimum standards to be established and/or maintained by said member concern.

The conditions of employment called for in the collective agreements now in effect in the several regions vary with the type of organization and character of work. The agreements state that there shall be no strike or lock-out during the life of the agreement and that an impartial chairman chosen by both parties shall settle all disagreements.

*Compliance*

Any member who violates a wage provision must make up the difference; if other provisions are violated, the concern is liable for damages and cost of investigation and hearings. Expulsion results from intentional

failure to abide by the constitution, bylaws, and regulations of the National Coat and Suit Recovery Board.

All coats and suits that are manufactured under the terms of the Board bear a Consumers' Protection Label. It is the employees' responsibility to sew this label into every garment as public notification that the garment has been made under sanitary conditions and by employees and employers whose coöperative effort is bringing much needed stabilization to the industry.

The sale of this label is the sole income of the National Coat and Suit Recovery Board. In New York City the Recovery Board pays the expenses of the Labor Bureau which has charge of all price settlement difficulties.

### *The Millinery Industry*

The millinery industry was the last of the women's apparel industries to emerge from the custom-made stage of manufacture to a quantitative basis of production. With even greater seasonal and fashion difficulties to overcome than confronted the other women's apparel industries, it has also suffered from a radical change of type of product within the last ten years.

The milliner is a manufacturer, that is, he buys his own material, produces on his premises and sells his hats wholesale. However, the rapidity of style changes has made flexibility of plant essential so he has remained a small manufacturer, employing on the average 24 persons a season. The smallness of his operations requires little outlay of capital for equipment, and credit is easily obtainable for supplies. Styles are quickly copied from the few large houses that originate design by attending style shows and watching the stores that carry the higher priced hats. Consequently there is a shifting of employees into employer ranks and back again when failure wipes out capital.

This small manufacturer has been as handicapped in getting fair prices for his manufactured hats as the coat and suit contractor has been in getting an equitable price for his sewing services. For he operates between two millstones, well organized dealers in raw materials who fix their prices to him on raw materials, and well organized wholesale or retail dealers who practically dictate the price they will pay for his finished hats. Sixty percent of all finished hats are handled by syndicates that run the millinery departments of stores scattered all over the United States. In order to keep his shop busy the milliner has offered extra ornamentation without charge, special return privileges and high discount rates. The result has been utter confusion and bad feeling in the industry with as many as twenty percent of the firms failing in 1934.

The employee is as much a victim of this lack of stabilization as the employer. Twice a year almost half the workers in the industry are laid off. Some of them employed as blockers of felt hats can find no jobs

in the spring because spring hats require less blocking than felt hats; and some of the trimmers of spring hats can find no work in the fall because fall hats require less trimming than spring hats. With the coming in and going out of business of employers, many millinery workers have no particular employer but move about from one shop to another.

The Millinery Stabilization Commission is governed by a board of three members not connected with the millinery business. Firms controlling 80 percent of the production have entered into agreement to abide by the trade-practice provisions of the former National Recovery Administration code. They have agreed to maintain the collective agreements entered into with the United Hatters, Cap and Millinery Workers' Industrial Union. They hope, by developing a spirit of coöperation in the industry, to bring individual employees and employers together for common council.

The agreements covering working conditions aim to give employment to as many workers as possible. Weekly hours are fixed at 35, with the understanding that overtime cannot be worked unless all workers in the crafts affected are employed full time and unless all available seats and benches are occupied. Sanitary working conditions are required.

A minimum scale of wages is set up for each craft, a scale placed high enough to make up for some of the irregularity of employment. A higher scale is used as a basis for settlement of piece rates for the average good worker. The piece-work prices are settled by employee and employer price committees.

While the Millinery Stabilization Commission counts on the unions to police these labor agreements, they in turn throw their force behind the union agreements, by preventing price undercutting and by strengthening the manufacturers' position in dealing with the wholesale syndicate and retail merchant.

The industry has no contractors and no home work. Its label is a guarantee that the hat is made under sanitary conditions, at the best wage rates the industry can now afford, and that the firms whose goods carry the label are earnestly seeking to find a way out of difficulties imposed upon them by a too seasonal and a too rapid fashion demand.

### *Consumer's Support*

Although less than one-tenth of coat and suit manufacturers and one-fifth of millinery manufacturers have refused to enter into the coöperative agreements, these minorities are a constant menace to this forward movement for industrial stabilization. The Women's Bureau of the U. S. Department of Labor is urging all women buyers to support this movement by purchasing only coats and suits and hats produced by firms operating under the two boards.

A Sound Wage Policy Must Take into Account both Personnel and Economic Considerations.

# Wage-setting Research

By C. Canby Balderston
Professor of Industry, Wharton School, University of Pennsylvania

Nearly everyone who gets a pay envelope receives for his services a price that someone else has set. To the recipient of the envelope, the process of wage-setting is perhaps of more immediate concern than to the wage setter. The worker and his wife both scrutinize the contents and often consider how the boss could be so dumb as not to fix a rate that reflected the difficulty of the work. Some bosses do recognize the significance of wage setting, and it is in their difficulties that our discussion is centered. In management language, our purpose is to compare the analysis of jobs and occupations that should precede the setting of base rates with the standardization and time study that are necessary if extra compensation is to be paid on a uniform basis. By *basic compensation* is meant compensation that is not directly contingent on performance but which is related to the time worked. By *extra compensation* is meant that pay which is directly contingent on the quantity or quality of the work done. The former is used in most companies to designate status and to reward long service, dependability, and loyalty. It is also used to guarantee certain minimum protection to employees working under incentive. In contrast, financial incentives are used by management as a spur to action, so that the resulting improvement in output or quality will reduce costs.

No one is likely to question the aphorism that wages are at the heart of personnel relations, but some may wonder why this discussion is de-

voted to wage-setting research rather than to the more general considerations of wage policy. The reason is that company announcements that they pay wages, above the market, or that their policy is to pay "fair" wages are a delusion unless based upon the investigation necessary to make these statements come true. Many companies that claim to be paying more than the market do not know what the market is.

A sound wage policy must take into account personnel and economic considerations: the former, because the source of labor is human; the latter, because economic forces set the limits within which an individual enterprise must operate. The personnel considerations are necessary because each worker is a human being whose own affairs are immensely important to him. He is not likely to achieve his best results if the management thinks of him and refers to him as a number. As a human being, he is influenced tremendously by his feelings, and many of his emotions have to do with the fairness of his compensation. This fact that wages are both a human and an economic problem, rather than a mere question of price setting indicates that any research done by a company must reflect this point of view. Such an approach would bar occupational appraisals that pay no attention to what the employees think about the relative difficulty of work, as well as time studies made by untrained observers, who have neither the ability nor the salesmanship to get the workers observed to participate in the study.

To clarify our discussion, it may help to indicate certain tests that will convey my concept of what is good compensation. Perhaps the first is that the pay of each individual should be based primarily on his current contribution to the enterprise rather than on his length of service or his need. If workers can actually influence their output to an appreciable extent, and if the work is susceptible of time study measurement, then financial incentives help a company to pay people according to what they do. The second of our criteria is that the rates of individual occupations and jobs should bear a satisfactory relationship to the rates paid elsewhere in the same company and to those paid in the same market. But whether or not financial incentives are applicable, it is always possible to make some kind of a systematic appraisal of the skill and the responsibility required by each occupation or job. To be in adjustment internally requires that rates should be in alignment according to the difficulty of the work done, and that the extra compensation should be based upon output standards of uniform difficulty. To be in adjustment externally requires careful determination of what other firms in the community and industry are paying for comparable work. A third test is that employee earnings on an annual basis should meet minimum standards of adequacy.

*Determining Base Rates*

Perhaps the most serious indictments of the wage practices of industrial firms is that they tend to pull their base rates out of the air with little or no study and investigation, despite the fact that many of them use care in setting their output standards and spend large sums of money for standardization and time study work. Our first comment about research underlying basic compensation is that too little of it is done and that we know too little about it.

Perhaps the general nature of the investigation that should be used in setting base rates and basic salaries may be indicated best by suggesting questions for which answers are needed. The first of these questions is: What is the work being done by those in each occupation and job? The answer requires a job definition or description rather than a specification such as would help in hiring. The definition, though brief enough to be usable, should indicate the kind of work done without enumerating all of the detailed duties and procedure. The place for the latter is in a manual of procedure. It should also give the scope of responsibility, especially in the case of supervisory jobs. Where possible, it should show some of the outstanding skills required, although in practice, this is difficult. Where performance standards have been set, whether in terms of output or quality or both, these should likewise be included.

The second question to be answered is: How do the several occupations and jobs differ in difficulty and responsibility? What differences in skill are required? The solution involves the use of human judgment rather than precise measurement because skill and responsibility consist of imponderables. The procedure involved is to make an occupational appraisal either by rating their jobs with a graphic rating scale, by merely ranking them, or by using a combination of both methods. The result of this step is an evaluation of each occupation and job expressed in points so that whatever imperfections exist in the alignment of the existing rates may not be reflected in the appraisal of difficulty.

The third question is: How closely do the existing rates of pay correspond with relative difficulty and responsibility? To what extent the existing rates are out of alignment will be shown if rates are charted according to the degree of skill required.

The fourth question is: What rates are paid in the same labor market for comparable work? By the same labor market is meant either the rates in the immediate community, or among competitors in a larger area. The solution to this problem is made difficult by the lack of exact comparability between the work of the given company and that of other firms from which wage data are solicited. Even if an adequate sample of figures can be secured in a city like New York, Philadelphia, or Pittsburgh for a dozen occupations that are common

to the given firm and to the market, it will be found that the dispersion around the average is so wide as to destroy confidence in its representativeness. In short, the market is not portrayed accurately as a single line, but as a band which widens as one goes from the low- to the high-paid occupations.

The obstacles to securing a reliable comparison of wages among a group of firms are more numerous than those that have been referred to. They arise from the fact that some firms use incentives for work that others pay on a time basis, that no exact information can usually be secured as to output or quality, and that the hours worked vary as well as the relation of overtime to regular rates. Still other considerations are the relation of starting rates to regular rates, the weight placed upon length of service, and the ease with which a given company can secure help, which will in turn be affected by its location, its working conditions, and its reputation in the labor market.

*Installation of Incentives*

We now turn to the subjects of standardization and of motion and time study. Since we obviously cannot discuss this phase of management in detail, we will confine ourselves to certain strengths and weaknesses of time study from the personnel point of view.

It is assumed that financial incentives should be installed rarely, if at all, until after the work has been standardized and output standards set that will be uniform. This means that management has an obligation to employees who are asked to work under piecework, or bonus or premium arrangements, not to initiate any incentive scheme until the preliminary management steps have been taken. Moreover, management has an obligation to see that the materials, machines, workplaces, tools, and equipment and methods are standardized, and that sufficient controls are installed to maintain the standard. This is merely saying that a given output standard is good only for one set of operating conditions and that if changes in the hardness of material, the speed of the machine, or the size of lot makes the work more difficult, the original output standards become unfair. If the methods followed by the operator are to be standardized before the time study is taken and if the time study observations are not to be cluttered with times representing poorly made motions, then the time-study men should also be capable of motion-study analysis. They should know instinctively the difference between good and bad motions. Moreover, if this argument is accepted, a different type of time study man is needed from that often employed. What is required is a man who can command sufficient respect from workmen so that he can win a measure of confidence and coöperation in a situation in which workers are naturally distrustful. As to the time study itself, a general criticism is that of the two major steps involved, the second is often

slighted. The first step is the determination of the selected operation time without any allowances for unavoidable delays; and the second is the determination of proper allowances for machine and handling delays and for fatigue. It is, of course, ridiculous to calculate a selected operation time to the hundredth of a minute, or the thousandth of an hour, and then to add some arbitrary percentage for delay. To repeat, the production study used to set the allowances should be made just as carefully as the determination of the selected operation time.

### *Errors in Time Study*

Even thorough time study is subject to significant errors, some of which are difficult to avoid. One is the failure to observe the quality of work performed during the taking of the study. This difficulty can be met, of course, by having the work inspected if there are clear-cut quality standards. The sample of workers observed is likely to be inadequate even in large enterprises because of the extent of modern specialization. If a given machine is operated by only one person and if there are no other employees of equal skill, the observations have to be based upon the work of the single operator. The latter may be expert, average, or very poor, and his skill and speed will affect his time. Although numerous devices, such as "leveling," are used to surmount this difficulty, the results are still weak whenever the sample of workers is too small.

Many other questions that must be solved prior to the installation of incentives are matters for administrative decision rather than for research alone. For instance, the bonus curve can be selected by no one but the top management. It is true that, in making the decision, they will want graphs and figures as to how the proposed curves affect unit costs and employee earnings, but even such a fundamental question as to whether the curve should give all the labor saving to the workers or divide it with the company is a matter for someone's decision rather than for research investigation.

The compensation of employees and executives needs more intensive study than is now devoted to it by most firms. It is a problem of price setting that demands thorough analytical investigation rather than rule-of-thumb decisions. But since labor as a service cannot be dissociated from the men and women who supply it, the research used must take account of their feelings and emotional reactions. What we have been advocating is not more statistical method nor engineering analysis, but their use in such a way as to take account of human values.

Do You Give Your Employees $10,000 Words With Which to Sell Your Merchandise and Service to the Public?

# "Tested Selling Sentences"

By Elmer Wheeler
Tested Selling, Inc.

The problem of putting into the mouths of your $15.00-a-week sales clerks the words and the phrases that a $10,000.00-a-year executive would use were he at that counter selling the goods across the counter to the public has been solved.

Thanks to modern science, this little scheme is now possible because a work laboratory has been formed to give sales-people words and phrases that have been customer-tested to make sales more accurate, fool-proof, faster, than if you leave it up to the sales clerk to say something extemporaneously to the customer.

### *Tested Selling Sentences*

What is the difference between ordinary sales conversations and Tested Selling conversations? What is the difference between the sales vocabulary of an unsuccessful sales person and that of a successful sales person?

That is what, over ten years ago, a group of university professors set out to find, and the outgrowth of all the research that these professors did in their laboratories at Johns Hopkins and New York University and other research in over 360 stores representing nearly over 200 lines of industry, was the formation of the world's first and only word laboratory known as Tested Selling Institute. The purpose of the Institute is to weigh and measure the relative importance of words and phrases on customers.

Just as you are testing out your product, and just as you have advertising in magazines and newspapers that is tested to bring the people in to the store, this Institute has words

and phrases known as "Tested Selling Sentences" to sell the customer once you get him into your place of business.

The outgrowth of all these years of research was the dramatic proof of a fact that you know very well: That in all sales talks only a certain few words and phrases click open those little mental pocket-books in your customer's mind, and make that customer want to buy; that all sales talks are made up of hills and valleys, strong selling points and weak, but that only the hills, the strong selling points, really make the customer buy.

Those sentences which in sale after sale, customer after customer, make customers buy your goods, we term "Tested Selling Sentences," because those sentences are customer-tested, and have a known value.

All of us are using these Tested Selling Sentences consciously or instinctively from morning until night; some of you to sell ideas; some of you to sell service; and others of you to sell actual merchandise.

### *Source of Ideas*

The nucleus of our ideas come not from the beards of professors, but right out of the chewing gum of the sales clerks. We study them for days and days and hear the sentences that are used. Once in a while out comes a good sentence. It may be buried in a long, lengthy line of meaningless words, but it is there, and we will take that little sentence back to our laboratories, and we will compare it with other sentences. Here is a composite sales talk being used by the Schulte-United Co., to sell Indian moccasins to little boys. See if you can pick out the Tested Selling Sentence. It was right there, but was buried in a long, lengthy sales talk.

The woman would be seated in the shoe department getting a pair of shoes. The salesman was smart enough to wait until he had the woman's shoes off so she could not walk out of the store before he came in with the Indian moccasins.

This is the sales talk he would use: "Madam, wouldn't you like to buy a pair of these real Indian moccasins for your little boy? They have triple stitching around the back and they will last a lifetime. The beads are put on with twine and they will never break off. They have blunt toes instead of pointed, and your little boy's feet will grow straight and healthy all the rest of his life. These moccasins used to sell for 67¢, but we have a special clearance sale on today and they are only 47¢. Wouldn't you like to buy a pair for the little boy, and maybe his brother or sister or some of the neighbors' children?"

By the time he got through with that long sales talk the woman had her shoes already on and she was out of the store. So we instructed them to do one thing. Bring the moccasins in, put them down in front of the little boy, and the only sentence we wanted them to use was this: "The kind the real Indians wear, sonny," and then start waiting on the mother,

and see what would happen to that little boy's imagination.

That sentence would so fire the little boy's imagination that he would slide down off the chair and pick up those Indian moccasins, and he became an assistant salesman and began to work on his mother.

What does that child care whether the beads will last five minutes or ten years? What does he care whether the moccasins are healthy or unhealthy for his feet? He visualizes just one thing: That he can go up and down the streets pointing to his moccasins in front of all the kids in the neighborhood and say: "Whoopie, the kind the real Indians wear."

We call that a Tested Selling Sentence because that sentence is tested in actual cases on customer after customer, and is guaranteed to sell every three out of thirteen children Indian moccasins, as an extra sale. If you do not believe it, just try it on thirteen little boys and see if you do not sell them a pair of Indian moccasins.

### *Brevity*

A lot of you are saying: "Well, I can see where a certain sentence will click on a small item, but I am in the insurance business, and it takes more than a sentence to sell life insurance." Or: "I sell automobiles, and, boy, it takes more than one sentence these days to sell automobiles."

We do not believe in a long sales talk. We do believe, though, that even in long talks certain words and phrases should be shot out at your customer, words and phrases that you have had tested for you and that you know what is going to happen in your customer's mind when they are used.

We do not believe in the long canned sales talk. You know; the man who calls at your front door with a shoe-brush and proceeds to tell you the history of that shoe-brush from the time it left the Rocky Mountain nanny-goat until it arrived at your front door, all before you can say: "Aye, yes, or no"; "You do not live there"; or: "The lady of the house died that morning and you are the undertaker.

That is not the way to make a sale. We do not believe in that. But we believe that certain words should be put into the longest sales talk, and that wherever words or phrases are used on your customers, they are very valuable in making the sales.

### *Sloganizing Sales Talk*

We found sentences for The Texas Company, the Hoover Corporation, Johns-Manville, Hotels Statler, and others. We took a toothbrush at Saks, Bloomingdale, Abraham & Straus, and William Taylor & Son, and for the first time in the history of those stores they completely sold out of toothbrushes—and in less than one week!

We took Bost toothpaste, and circulated the dealers to use certain sentences when a customer came into the cigar counters. One letter we got just recently said: "We have sold a six months' supply of Bost toothpaste in one single week in a chain of Ohio

drug stores." When you went into those stores to buy your cigars the clerk did not say: "How are you fixed for toothpaste today?" or, "Do you need any toothpaste?" but he said: "Have you ever used the smoker's toothpaste?" And when you said: "No, what is the smoker's toothpaste?" he would say: "Bost; it is made especially for people who smoke."

Two simple little sentences, and yet they did not just pop out of the air. We do not get these sentences as brilliant brain children. We are always afraid when a sentence pops out. We want to make sure. We take a sentence and we test it out on a customer. We have 105,000 of these Tested Selling Sentences today that represent over 5000 different items. These sentences have been used on over 20,000,000 customers to date.

We have what we term a "Gravitation Method" that inspires the dealers and sales people to use these Tested Selling Sentences, and to supply us with records of the number of times these sentences are used on a customer; the number of times the sentence sold, and the number of times the sentence failed to sell, so we can tell with mathematical precision the relative value of one sentence against another.

The Barbasol people recently asked us whether we could help them. Well, you know what happens today in stores. There is just a limited amount of traffic because the traffic has to be divided up with competitors, so we have to get every dollar out of that traffic. The unskilled manager gets hold of his group of sales people and he says: "Come on, now, fellows, push the merchandise, push it, get that extra sale; get that extra sale," and what happens? You go into the store and the clerk says: "How are you fixed for shaving cream?" You say: "All right, how are you?" Then the clerk will say: "Would you be interested in buying some of these nice razor blades today?" and you will say: "No, I have plenty."

And then the clerk will proceed to line up pieces of merchandise until finally in disgust you will say: "Will you please let me get out of this store; I have been in here for twenty minutes saying, 'No.' I just want a little 25-cent toothbrush." And out you go, and you never come back again.

We took Sears Roebuck & Company in Cleveland, and asked them to use one sentence in selling Barbasol. A man would buy a toothbrush and the clerk would say to him: "How would you like to save six minutes' shaving every morning, sir?" Well, what can that fellow say? "No, I am not interested; I love to hang around bathrooms shaving in the morning." Nine out of ten men would turn around and look at the girl with that bewildered look on their face, that look of: "What do you mean? A new transportation system at my house; a new lawn mower for the face; or what?"

Then we had that customer's atten-

tion on Barbasol beyond everything else in the world including Barbasol's competitive products, and the girl would hold up Barbasol and say: "Just spread it on and shave it off; nothing else required." We increased sales at Sears 104% with that attention-getter and that follow-up Tested Selling Sentence.

We only had one negative reaction. We always look for negative reactions. If I would tell you gentlemen that in every box of clothes pins you would find a gold one, you would start looking for it and if you would not find a gold one you would be back the next day. It is not finding these sentences but it is finding a good sentence that will sell and not high-pressure the customer. There was only one negative reaction to that sentence.

I went up to one of the girls to see how the sentence was being used in that store and the girl said: "Mr. Wheeler, I used that sentence just a few minutes ago on a customer with just a little fuzz on his face, and in a high-pitched voice he turned around to me and said: 'Why, good gracious, dearie, it only takes me two and a quarter minutes to shave anyway,' and out the door he tripped."

Well, that gave us an idea, so by the time we got to William Taylor & Sons we changed that sentence around so as to even sell Barbasol to those fellows. They would walk in and ask for their toothbrush and the clerk would say: "How would you like to cut your shaving time in half, sir?" If it took two and a quarter minutes to shave the fuzz off their face, or twenty minutes to shave off out-of-door whiskers, we still had a sentence to fit the occasion.

*In Restaurants*

Similar experiments in restaurants have been carried out. The smart waiter also has his magic words and behavior by which he soothes, guides and controls his unsuspecting guests. And this is of interest to those who eat as well as those who serve.

For instance, a man walks rapidly into a restaurant, a sign that he is in a hurry, and addresses the first wide-awake-looking waiter he sees, a sign that he knows how to get quick service. He says:

"I want three four-minute boiled eggs and I can't wait more than one minute for them."

It is a preposterous request and the waiter might be pardoned for reminding the man that it takes four minutes to boil a four-minute egg. But that is not the right answer. He should say:

"Yes, sir," followed by such a rapid walk to the kitchen that the guest feels that he is at least going to do his best. If the restaurant is a large and busy one and the waiter has luck, he may return within the minute by the guest's watch, bearing those impossible four-minute eggs and the cup of coffee he wants but didn't order.

The hurried guest appreciates magic, gives a nice tip and probably becomes a steady customer of that restaurant and that waiter when he

has leisure to eat more substantial meals.

The next time he asks for that same miracle, he may not get it. That is just the trouble with magic, the conditions have to be just right. The waiter will then have to explain how he did it before. He simply found that another waiter had three four-minute eggs cooked and ready to be taken away but they had been ordered by a nice, dopey old person who wouldn't notice an extra ten minutes delay, while three more were being cooked for him.

At all costs a waiter must keep his customers in a cheerful frame of mind; otherwise they will not order much and may go out without anything being rung up on the cash register. This often means that the guests must be protected from each other and even from themselves.

Sometimes the waiter must quiet a boisterous customer with a magic phrase. Of course he cannot tell him the truth that he is making an ass and a nuisance of himself or even hint at it. The sentence that does the trick nearly every time is this: "It must be wonderful to feel so happy!"

The first effect of these words is that they are sweet flattery but slowly this is followed by a sour after-taste, suggesting that perhaps people think he isn't able to "hold his liquor well." He usually endeavors to disprove this by trying to appear as "sober as a judge."

Another time when a waiter should hold his tongue is when a guest comes in to breakfast with a grouch, or suffering from a "hang-over." A number of phrases were tried out, but none of them worked, not even a simple "good morning." It may be a "rare day in June," but so far as that guest is concerned there is nothing good about it. The best thing to do is put a cup of coffee in front of him, before he has time to ask for it, and then get his order quickly and correctly, without asking him to repeat it. He should be served quickly, too, for once he has food in his mouth he can't talk, and no matter what a grouch says, it's almost sure to be a complaint.

If two guests start arguing over who is to get the check, the waiter should size them up quickly, and if one is bluffing, he should give it to the one who really wants it. In that way, both are satisfied. Sometimes a waiter sees a guest start out with somebody else's overcoat, but it would never do to intimate that this was intentional, for that might result in a scene, and maybe a damage suit. The magic phrase here is: "I believe you have the wrong coat, Sir."

If the man is honestly embarrassed, it will do no harm to tell him that a bishop did the same thing the other day.

Dishonest persons may possibly eat in restaurants but the waiter must never suggest such a possibility. If one tries to pass counterfeit money, he should say sympathetically: "Someone must have given you a bad bill."

If a woman enters a restaurant by

herself, it is a mistake for the head waiter to ask if she is alone. Perhaps her husband or sweetheart may have deserted and that word "alone" is like a slap in the face. "A single table?" may be bad in case she is an old maid because the word "single" is not good for her appetite. The right phrase is "table for one?"

In a large party, since the waiter does not know anybody's name, he usually identifies some article in each order with the orderer's personal appearance. A bald-headed man may be silently named "half-grape fruit," a lady with a long neck, "Turkey," and a thin but pretty girl, "sliced peach." It is no use asking the waiter how he has named you—he will never tell. Some waiters name only one person, and using them for a landmark number the others in rotation; but if they change places places he is all mixed up.

Another thing about which many people are sensitive is the pronunciation of words—and no one likes to be corrected, particularly by a waiter. Suppose, for instance, a guest orders chocolate mousse, and calls it "mouse" instead of "moose." By either name this dessert tastes the same, but should the waiter, knowing the proper way to say that word, deliberately mispronounce it, just to keep from embarrassing the guest?

If he does, the guest may later learn from his wife or other authority the right way to say it, and then feel the waiter was trying to make a fool out of him. In which case, he probably will not return to that restaurant—and in these highly competitive days, a waiter's livelihood depends a good deal on his ability to get and hold steady customers. Ordinarily a waiter should repeat each item in an order, but when a word is mispronounced he should simply write it down and say nothing—and if the guest afterewards learns better, he will be happy in thinking the waiter was every bit as ignorant himself.

### *Sales Psychology*

But, as I say, it is not a cure-all; nothing is a cure-all. I like to tell the story on one of my former associates. He was sent down south during the war to sell those $10,000 life insurance policies to the colored soldiers. He was all filled up with the psychology of selling, and he went down there saying: "I will wow those colored fellows. I will scare them. I will make them buy my insurance policies." He got up on the soap-box and this is the way his sales talk went:

"Colored folks, you are going over to France to fight for Uncle Sam. Now, over there the Germans are going to shoot at you and blow your heads off and tear your arms apart, and you are going to be smeared all over Flanders Fields. That is going to happen to you over in France.

What is going to happen to your poor families left behind. They will have no coal, and they will be shivering in their houses, and they won't have any pork chops, or gin, or corn liquor, when you go over there and your heads are blown off.

Now, colored folks, what you have got to do to rectify that is to buy Uncle Sam's $10,000.00 life insurance policy, paying only $1.00 a month which will be taken out of your salary and you will never miss it.

Then when you go over to France and the Germans blow your heads off or tear your arms apart and you are smeared all over Flanders Fields, then your families will have $10,000.00 to buy all the coal they want, all the pork chops they want, all the gin or corn liquor.

No matter where you colored folks are with your torn arms and your heads blown off, either up there playing harps or down with the devil shoveling coal, you will know you did a good job for the families you left behind."

Well, I thought that was a pretty good sales talk myself, but my associate did not sell a single insurance policy. He said: "One thing I do know, though, I scared those colored fellows." How he scared them. Their faces were white and they went over into the woods wondering what was going to happen to them over in France. *They did not care about their families at home.* It took a little colored fellow to tell us this.

He said: "Captain, you won't mind if I stand up on that soap-box and just say a couple of words to these colored folks?" He said: "You all are missing the point. Ah never makes one of those speeches in ma life, and Ah don't know nothing about that psychology of selling, but just you all let me go up on that there soap-box." With nothing to lose and everything to gain, my associate let that little fellow get up on the soap-box, and these were the "Tested Selling Sentences" that little colored fellow used.

He got up there and said: "Colored folks, you all are going over there to France to fight for Uncle Sam. That is all cut, dried, and settled. Now, over in France Uncle Sam has two kinds of colored boys. He has the colored boys that are in the firing line shooting at the Germans and having their heads blow off; and he has other colored boys three miles back of the trenches tending to the mules. Now, Ah ask you colored boys: Where do you suppose Uncle Sam is going to send the boys that have $10,000.00 life insurance policies that he will have to pay out on if the boys are killed? Will he send them up in the firing lines to be shot at by the Germans, or three miles back of the lines tending to the mules?

The boys understood. They wanted to be three miles back.

Thus the little fellow sold the policies.

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# Book Reviews

A READING LIST ON BUSINESS ADMINISTRATION. Third Revision, June 1, 1936. Published by the Amos Tuck School of Administration and Finance, Dartmouth College, Hanover, N. H. Price, 30¢

A carefully selected Reading List on Business Administration, prepared by the Faculty of the Amos Tuck School of Administration and Finance of Dartmouth College, in response to requests from alumni and others for advice concerning outstanding books on various phases of business, is now available for general distribution. Its 62 pages represent the most important books on business published within the last two decades, with emphasis, wherever possible, on the most recent volumes or editions.

The Reading List includes about 300 titles, 37 titles under Industrial Relations and Personnel Management each book being accompanied by a meaty and interesting annotation telling of its contents or distinctive approach. The divisions under which these books are classified include: The business system and economic policies, the administration of business, industrial relations and personnel management, marketing, foreign trade, finance, accounting, business statistics, and business law.

As was the case in previous editions, this Reading List is of service to executives and concerns in establishing small libraries of business books, and in calling attention to the most important contributions made to the field of business theory and practice.

The section on "Industrial Relations and Personnel Management" is given under the divisions of labor problems and legislation, trade unionism and joint relations, personnel administration, industrial psychology, executive self-development, unemployment and social insurance, sources, periodicals and bibliographies.

THE LITERATURE OF BUSINESS STATISTICS. By Olin W. Blackett. Michigan Business Studies, Vol. 8, No. 1. Ann Arbor; Univ. of Michigan, 1936. Price $1.

This bibliography by O. W. Brackett, Professor of Business Statistics, at the Bureau of Business Research of the School of Business Administration, University of Michigan, refers to and annotates the best available material dealing with statistical techniques as applied to business. The need for such a compilation grows from the fact that the field of business statistics does not, in its newness, have its own body of literature and contributions are so scattered and so variable in quality as to defy adequate consideration without much time

consuming research. This publication, which is an adaptation of material originally gathered for teaching purposes, is presented with the expectation that it will be of value and assistance to those charged with the task of using statistics in the analysis of business problems.

This list includes 370 references, (52 titles under "Personnel" including magazine references), each accompanied by a brief description of the material together with critical comments by the author regarding the scope and value of the article or book referred to. The material is grouped under the headings of Statistical Method, Market Analysis, Personnel, Finance, Production, Forecasting, Real Estate, and Population, Growth Curves, and Secular Trends.

This bibliography is not intended to be all inclusive; it is selective. Many books and articles are excluded because the statistical evidence they present is inadequate or because the statistical method is not significantly treated according to the author's judgment.

The section on "Personnel" is given under the headings of records, employment statistics, selection of employees, labor turnover, accidents, and miscellaneous.

SOLVING PERSONAL PROBLEMS. A Counseling Manual. By Harrison Sackett Elliott and Grace Loucks Elliott. Holt, New York, 1936, 321 pp. $2.00. Reviewed by Owen E. Pence.

Professor Elliott and Dr. Grace Loucks Elliott have combined insights reached through many years of individual counseling, teaching and study in a series of chapters which make authentic technical contributions from all schools of psychology and mental hygiene available to those concerned with the efficiency of persons as persons in the productive relations of industry as well as in ordinary relations of home, school and community. The treatment is, however, non-technical.

The authors will recognize the distinction between counseling with individuals in regard to their many problems, and the work which psychiatrists, psychoanalysts, and other professional therapists do with individuals who have severe psychological disorders, devoting an able chapter to methods of coöperation with such specialists.

In a field already much broken by specialization around age levels, for example, the authors have recognized the essential interrelation between various stages of development. Similarly, they have recognized the interrelation of personal and social problems, and of individual and group experience, even in the occupational choices and relationships.

Direct personal relation between employer and employee, once the strength of industry, have been largely lost in the size and complexity of modern industrial organization. Somewhere in the organization whether in staff or line or both, it is to be hoped, there must be those who will recognize the employee as a whole person, and his right to development as a personality. This book will be highly useful to the growing interest in the mental hygiene point of view in industry.